ARSLAN ARTYKOV

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EDUCATION

Istanbul Technical University   Istanbul, Turkey

MSc. in Aerospace Engineering. CGPA: 3.94/4.00   Expected May 2023

Istanbul Technical University   Istanbul, Turkey

B.S. with Second Class Honors in Aeronautical Engineering Department. CGPA: 3.84/4.00   June 2020

RESEARCH EXPERIENCE

Bogaziçi University, DeepMIA Laboratory   Istanbul, Turkey

Machine Learning Research Engineer   Since Nov 2022

- Generating post-contrast cardiac MRI using a diffusion model conditioned on contrast free images
- Implementation of a light-weight Latent-Composer in PyTorch based on "Composer: Creative and Controllable Image Synthesis with Composable Conditions" research paper
- Robust visual feature extractor based on Diffusion models for adverse weather autonomous driving

Istanbul Technical University, Aerospace Research Center   Istanbul, Turkey

Graduate Researcher   Feb 2021 – Jun 2022

- Quadrotor self-localization by leveraging visual-inertial odometry with dynamics employed
- IMU measurement preprocessing by leveraging recurrent neural network
- Implemented Deep Learning based sparse direct visual odometry with self-supervised training approach and photometric bundle adjustment
- Implemented and trained learning based monocular depth/disparity estimation algorithm(both supervised and self-supervised approach)
- Designed and implemented a Deep Learning algorithm that classifies x-ray chest images of COVID-19 patients
- Designed and implemented runway detection and localization algorithm with semantic segmentation approach

Istanbul Technical University, Aerospace Department   Istanbul, Turkey

B.S. Student   2017 - 2020

- Implemented a search-based motion planning algorithm for an agile drone
- Implemented the minimum snap trajectory generation algorithm for agile quadrotor flight
- Designed a LQR controller and LQTracker for f-16 aircraft
- Designed an altitude and attitude hold autopilots for light-weight fixed-wing UAV
- Implemented a dynamic model of a fixed-wing UAV and a quadrotor in SIMULINK environment

ADDITIONAL EXPERIENCE

ITU Aerospace Research Center   Istanbul, Turkey

Graduate Research Assistant   Feb 2021 - June 2022

- Research on learning-based quadrotor self-localization and mapping, depth estimation and sensor fusion.

Altınay Aerospace and Advanced Technology Inc., Robotics Department   Istanbul, Turkey

Intern   Jan 2020 - March 2020

- Simulation of a rover type vehicle with velodyne LIDAR mounted on top in Gazebo environment

HONORS AND AWARDS

- Boeing Scholarship; in recognition of excellent academic performance during undergraduate studies.
- Turkiye Scholarship; in recognition of excellent academic performance at high school.

SKILLS AND RESEARCH INTERESTS

Research Interests:	Computer Vision, Deep Learning, Robot Perception, Visual Odometry, Visual Inertial Odometry, Learning-based Depth Estimation, Visual SLAM
Computer:	Python, MATLAB, C++, ROS, Linux, PyTorch, Numpy, MS Office, g2o, ceres
Languages:	Turkmen(Native), Turkish(Advanced), English(Advanced), Russian(Fluent)
Interests:	Cycling, swimming, playing tennis